WHAT IS CLAIMED IS:

1. A composition comprising an isolated polynucleotide encoding a chimeric polypeptide, the chimeric polypeptide comprising at least one chemokine polypeptide covalently attached to at least one heterologous polypeptide.

2. The composition of claim 1 wherein the heterologous polypeptide is covalently attached to the amino terminus of the chemokine polypeptide.

3. The composition of claim 2 wherein the encoded chimeric polypeptide comprises a linker polypeptide covalently attached to the heterologous polypeptide and the chemokine polypeptide.

4. The composition of claim 1 wherein the heterologous polypeptide is covalently attached to the carboxyl terminus of the chemokine polypeptide.

5. The composition of claim 4 wherein the encoded chimeric polypeptide comprises a linker polypeptide covalently attached to the heterologous polypeptide and the chemokine polypeptide.

6. The composition of claim 1 wherein the chemokine polypeptide is derived from SDF-1α.

7. The composition of claim 1 wherein the chemokine polypeptide is SDF-1α.

8. The composition of claim 1 wherein the chemokine polypeptide is derived from MIP-1α.

9. The composition of claim 1 wherein the chemokine polypeptide is MIP-1α.

10. The composition of claim 1 wherein the chemokine polypeptide is derived from MIP-1β.

11. The composition of claim 1 wherein the chemokine polypeptide is MIP-1β.

12. The composition of claim 1 wherein the heterologous polypeptide is an Fc polypeptide.

13. The composition of claim 1 wherein the polynucleotide is selected from the group consisting of:

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:2 from nucleotide 12 to nucleotide 1213;

(b) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:2 from nucleotide 69 to nucleotide 1213;

(c) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:2 from nucleotide 72 to nucleotide 1213;

(d) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:2 from nucleotide 75 to nucleotide 1213;

(e) a polynucleotide comprising a fragment of the nucleotide sequence of SEQ ID NO:2;

(f) a polynucleotide comprising the nucleotide sequence of the full-length protein-coding sequence of clone S1-3 deposited under accession number ATCC XXXXX;

(g) a polynucleotide comprising the nucleotide sequence of the mature protein-coding sequence of clone S1-3 deposited under accession number ATCC XXXXX;

(h) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:1;

(i) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:1 from amino acid 20 to amino acid 328;

(j) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:1 from amino acid 22 to amino acid 328;

(k) a polynucleotide encoding a chimeric polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:1;

(l) a polynucleotide comprising a nucleotide sequence complementary to any one of the polynucleotides specified in (a)-(k) above; and

(m) a polynucleotide capable of simultaneously hybridizing under stringent conditions to sequences encoding the chemokine polypeptide and to sequences encoding the heterologous polypeptide in any one of the polynucleotides specified in (a)-(l) above.

14. The composition of claim 1 wherein the polynucleotide is selected from the group consisting of:

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:4 from nucleotide 12 to nucleotide 1207;

(b) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:4 from nucleotide 69 to nucleotide 1207;

(c) a polynucleotide comprising a fragment of the nucleotide sequence of SEQ ID NO:4;

(d) a polynucleotide comprising the nucleotide sequence of the full-length protein-coding sequence of clone SK2-2 deposited under accession number ATCC XXXXX;

(e) a polynucleotide comprising the nucleotide sequence of the mature protein-coding sequence of clone SK2-2 deposited under accession number ATCC XXXXX;

(f) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:3;

(g) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:3 from amino acid 20 to amino acid 326;

(h) a polynucleotide encoding a chimeric polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:3;

(i) a polynucleotide comprising a nucleotide sequence complementary to any one of the polynucleotides specified in (a)-(h) above; and

(j) a polynucleotide capable of simultaneously hybridizing under stringent conditions to sequences encoding the chemokine polypeptide and to sequences encoding the heterologous polypeptide in any one of the polynucleotides specified in (a)-(i) above.

15. The composition of claim 1 wherein the polynucleotide is selected from the group consisting of:

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:6 from nucleotide 15 to nucleotide 1225;

(b) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:6 from nucleotide 81 to nucleotide 1225;

(c) a polynucleotide comprising a fragment of the nucleotide sequence of SEQ ID NO:6;

(d) a polynucleotide comprising the nucleotide sequence of the full-length protein-coding sequence of clone MP-1 deposited under accession number ATCC XXXXX;

(e) a polynucleotide comprising the nucleotide sequence of the full-length protein-coding sequence of clone MP-2 deposited under accession number ATCC XXXXX;

(f) a polynucleotide comprising the nucleotide sequence of the full-length protein-coding sequence of clone MP-6 deposited under accession number ATCC XXXXX;

(g) a polynucleotide comprising the nucleotide sequence of the mature protein-coding sequence of clone MP-1 deposited under accession number ATCC XXXXX;

(h) a polynucleotide comprising the nucleotide sequence of the mature protein-coding sequence of clone MP-2 deposited under accession number ATCC XXXXX;

(i) a polynucleotide comprising the nucleotide sequence of the mature protein-coding sequence of clone MP-6 deposited under accession number ATCC XXXXX;

(j) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:5;

(k) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:5 from amino acid 23 to amino acid 331;

(l) a polynucleotide encoding a chimeric polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:5;

(m) a polynucleotide comprising a nucleotide sequence complementary to any one of the polynucleotides specified in (a)-(l) above; and

(n) a polynucleotide capable of simultaneously hybridizing under stringent conditions to sequences encoding the chemokine polypeptide and to sequences encoding the heterologous polypeptide in any one of the polynucleotides specified in (a)-(m) above.

16. The composition of claim 1 wherein the polynucleotide is selected from the group consisting of:

(a) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:8 from nucleotide 16 to nucleotide 1226;

(b) a polynucleotide comprising the nucleotide sequence of SEQ ID NO:8 from nucleotide 85 to nucleotide 1226;

(c) a polynucleotide comprising a fragment of the nucleotide sequence of SEQ ID NO:8;

(d) a polynucleotide comprising the nucleotide sequence of the full-length protein-coding sequence of clone MPB-X deposited under accession number ATCC XXXXX;

(e) a polynucleotide comprising the nucleotide sequence of the mature protein-coding sequence of clone MPB-X deposited under accession number ATCC XXXXX;

(f) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:7;

(g) a polynucleotide encoding a chimeric polypeptide comprising the amino acid sequence of SEQ ID NO:7 from amino acid 24 to amino acid 331;

(h) a polynucleotide encoding a chimeric polypeptide comprising a fragment of the amino acid sequence of SEQ ID NO:7;

(i) a polynucleotide comprising a nucleotide sequence complementary to any one of the polynucleotides specified in (a)-(h) above; and

(j) a polynucleotide capable of simultaneously hybridizing under stringent conditions to sequences encoding the chemokine polypeptide and to sequences encoding the heterologous polypeptide in any one of the polynucleotides specified in (a)-(i) above.

17. A composition of claim 1 wherein the polynucleotide is operably linked to an expression control sequence.

18. A host cell transformed with a composition of claim 17.

19. The host cell of claim 18, wherein the cell is a mammalian cell.

20. A process for producing a chimeric polypeptide, which comprises:

(a) growing a culture of the host cell of claim 18 in a suitable culture medium; and

(b) purifying the chimeric polypeptide from the culture.

21. A polypeptide produced according to the process of claim 20.

22. The polypeptide of claim 21 comprising a mature polypeptide.

23. A composition comprising a chimeric polypeptide, the chimeric polypeptide comprising at least one chemokine polypeptide covalently attached to at least one heterologous polypeptide.

24. The composition of claim 23 wherein the heterologous polypeptide is covalently attached to the amino terminus of the chemokine polypeptide.

25. The composition of claim 24 wherein the chimeric polypeptide comprises a linker polypeptide covalently attached to the heterologous polypeptide and the chemokine polypeptide.

26. The composition of claim 23 wherein the heterologous polypeptide is covalently attached to the carboxyl terminus of the chemokine polypeptide.

27. The composition of claim 26 wherein the chimeric polypeptide comprises a linker polypeptide covalently attached to the heterologous polypeptide and the chemokine polypeptide.

28. The composition of claim 23 wherein the chemokine polypeptide is derived from SDF-1α.

29. The composition of claim 28 wherein the chemokine polypeptide is SDF-1α.

30. The composition of claim 23 wherein the chemokine polypeptide is derived from MIP-1α.

31. The composition of claim 30 wherein the chemokine polypeptide is MIP-1α.

32. The composition of claim 23 wherein the chemokine polypeptide is derived from MIP-1β.

33. The composition of claim 32 wherein the chemokine polypeptide is MIP-1β.

34. The composition of claim 23 wherein the heterologous polypeptide comprises an Fc polypeptide.

35. The composition of claim 23 wherein the chimeric polypeptide comprises an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:1;

(b) the amino acid sequence of SEQ ID NO:1 from amino acid 20 to amino acid 328;

(b) the amino acid sequence of SEQ ID NO:1 from amino acid 21 to amino acid 328;

(c) the amino acid sequence of SEQ ID NO:1 from amino acid 22 to amino acid 328; and

(d) fragments of the amino acid sequence of SEQ ID NO:1.

36. The composition of claim 23 wherein the chimeric polypeptide comprises an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:3;

(b) the amino acid sequence of SEQ ID NO:3 from amino acid 20 to amino acid 326; and

(c) fragments of the amino acid sequence of SEQ ID NO:3.

37. The composition of claim 23 wherein the chimeric polypeptide comprises an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:5;

(b) the amino acid sequence of SEQ ID NO:5 from amino acid 23 to amino acid 331; and

(c) fragments of the amino acid sequence of SEQ ID NO:5.

38. The composition of claim 23 wherein the chimeric polypeptide comprises an amino acid sequence selected from the group consisting of:

(a) the amino acid sequence of SEQ ID NO:7;

(b) the amino acid sequence of SEQ ID NO:7 from amino acid 24 to amino acid 331; and

(c) fragments of the amino acid sequence of SEQ ID NO:7.

39. The composition of claim 23 wherein the chimeric polypeptide comprises the amino acid sequence of SEQ ID NO:1.

40. The composition of claim 23 wherein the chimeric polypeptide comprises the amino acid sequence of SEQ ID NO:3.

41. The composition of claim 23 wherein the chimeric polypeptide comprises the amino acid sequence of SEQ ID NO:5.

42. The composition of claim 23 wherein the chimeric polypeptide comprises the amino acid sequence of SEQ ID NO:7.

43. The composition of claim 23, further comprising a pharmaceutically acceptable carrier.

44. A composition comprising an antibody which reacts with both the chemokine polypeptide and the heterologous polypeptide of claim 23.

45. A method for identifying molecules capable of interacting with a chimeric polypeptide which comprises:

(a) combining a composition of claim 23 with a composition comprising molecules to be tested for interaction, forming a first mixture;

(b) combining the first mixture with a composition comprising indicator molecules, so that the indicator molecules are capable of being altered by the first mixture; and

(c) detecting the presence of altered indicator molecules.

46. A method for attracting migratory cells to a region of an organism which comprises administering therapeutically effective amounts of at least one composition of claim 23.

47. A method for stimulating angiogenesis which comprises administering therapeutically effective amounts of at least one composition of claim 23.

48. A method for inhibiting angiogenesis which comprises administering therapeutically effective amounts of at least one composition of claim 23.

49. A method for preventing, treating, or ameliorating an inflammatory condition which comprises administering therapeutically effective amounts of at least one composition of claim 23.

50. A method for preventing, treating, or ameliorating an autoimmune condition which comprises administering therapeutically effective amounts of at least one composition of claim 23.

51. A method for enhancing antigen-presenting cell activity which comprises administering therapeutically effective amounts of at least one composition of claim 23, wherein at least one chimeric polypeptide of claim 23 comprises antigen molecules.

52. A method for inducing an immune response which comprises administering a vaccine and therapeutically effective amounts of at least one composition of claim 23.

53. A method for altering receptor function which comprises causing a receptor to bind at least one chimeric polypeptide of claim 23.

54. A method for decreasing receptor function which comprises causing a receptor to bind at least one chimeric polypeptide of claim 23, resulting in a decrease in the number of functional receptor molecules.

55. A method for preventing, treating, or ameliorating HIV infection which comprises administering therapeutically effective amounts of at least one composition of claim 23.

56. A method of claim 55, wherein the compositions administered comprise a chimeric polypeptide of claim 23 comprising SDF-1α and a chimeric polypeptide of claim 23 comprising a chemokine selected from the group consisting of MIP-1α and MIP-1β.